

Customising explicit outcomes from policy objectives: an action research guide to making funding work

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Abstract

In June 2008, the Department of Education, Employment and Workplace Relations (DEEWR) called for pilot proposals to improve student literacy and numeracy outcomes in low socio-economic and Indigenous school communities. DEEWR emphasised that proposals should be underpinned by evidence-based research, include provision for independent evaluation and, have the capacity to generalise to broader learning communities. A joint initiative between Charles Darwin University (CDU) and Catholic Education Northern Territory, received funding for its project *Strong Foundations*, which aimed at providing customised mentoring and resource development to twelve early learning centres in the Northern Territory. An action research approach was chosen to drive the *Strong Foundation* project because it would involve practitioners as researchers and have the capacity to solve practical problems with evidence generated by research. Furthermore, the integration of research and action would produce organic change agents which would be essential in this context. This paper responds to an early research finding from one of the twelve programs developed under the umbrella of the *Strong Foundations* project: *Arrurle Anthurre – Once Upon a Dreamtime*. Trialling over a two-year period in the pre-school of a very remote Indigenous Catholic Community School, this program aims to strengthen early childhood pedagogy and the quality of developmental and learning experiences. During its second six weekly review, the research team comprising pre-school, CDU and Catholic Education educators identified the need for a major change to the program. At that stage they were following a triadic model comprising DEEWR's, *Strong Foundations*' and their own objectives and outcomes. It had become obvious that none of these was situation-specific enough for the diverse and complex setting in which the *Arrurle Anthurre* program was being implemented. The team decided that each DEEWR objective would be much more attainable if accompanied by explicit outcomes customised for its pre-school's setting, staff and students. This would also provide a useful platform for internal and external monitoring as well as guiding generalisation to other similar settings.

A work-in-progress, the primary purpose of this paper is to disseminate the process of developing explicit outcomes which operationalise DEEWR's objectives and in turn, facilitate the evaluation process and give greater accountability for how funding is spent. Through this paper, the action research team's experiences will be shared with other pilot schools and the wider school community as required by DEEWR's reporting expectations.

If you don't know where you are going any road will take you there.
Lewis Carroll (1832-1898)

Background

DEEWR's call for pilot proposals

In June 2008, DEEWR called for pilot proposals from Australian school systems 'to introduce reforms to schooling to accelerate progress to Commonwealth of Australian Government (COAG) literacy and numeracy targets' (DEEWR: 2008:1). The funding body was explicit in what was expected from applicants, outlining overarching policy, objectives, guiding principles, scope and reporting requirements (*Information paper: Literacy and Numeracy Pilots*, DEEWR, June, 2008). The use of the phrase "to introduce reforms" leaves no room for ambiguity: the government wanted a resilient evidence-based approach to teaching literacy and numeracy, with provision for independent evaluation and the capacity to generalise to broader learning communities.

Strong Foundations

In a joint initiative, the School of Education, Charles Darwin University (CDU) and Catholic Education Northern Territory applied for funding for a project aimed at strengthening the quality of early childhood literacy and numeracy development. The project, *Strong Foundations*, was successful in attracting funding and twelve individual programs were developed from this and implemented into four pre-schools and eight early learning centres in low socio-economic Catholic Education school communities in the Northern Territory. Each of the twelve programs was designed by a team comprising centre-based early childhood educators and early childhood program leaders from Charles Darwin University and Catholic Education.

Working from the premise that early childhood education and care is in a period of transition as jurisdictions re-evaluate and re-conceptualise existing policy frameworks and approaches (Elliott, 2006), *Strong Foundations* is designed to highlight three complementary dimensions: system development, renewal and reform; workforce development and reform; and, partnerships with parents and communities. Its primary objective is to provide targeted, customised, practical mentoring support and professional learning and resource development in response to current early childhood theory, policy and practice (Elliott & Keenan, 2008).

Action Research

The *Strong Foundations*' project directors chose to deliver the project as an action research model recognising that this could lend consistency to

programs being implemented in twelve diverse and in many cases, geographically distant settings. Action research was seen as particularly appropriate because it involves practitioners and has the capacity to solve practical problems with evidence generated by research (Denscombe, 2007). Furthermore, the integration of research and action is likely to produce an organic change agent, important in a program that was to be mentored from a distance.

Arrurle Antherre –Once Upon a Dreamtime (Arrurle Anthurre)

This paper examines the action research approach to one of the twelve programs developed under the umbrella of the *Strong Foundations*' project - *Arrurle Anthurre*. This program has been implemented into a pre-school in a very remote Indigenous Catholic Community School by a team comprising the pre-school educators, the school's curriculum coordinator and a CDU early childhood leader. Under the action research plan, the team first addressed questions relating to perceptions, challenges and realities of teaching in that particular community and devised actions to overcome obstacles and improve the quality of programs. The project's primary focus was to increase the fluency of the language of numeracy through the landscape and literacy of the Arrernte People. This would be done through the introduction of folk tales from the Arrernte culture, and through adaptations of traditional European folk tales told in Arrernte¹ and English.

A student-centred approach and intervention, the project's goal is to strengthen the quality of early childhood pedagogy and develop a literate and numerate child who can actively participate in society 'knowing and engaging with the diverse range of knowledge that underpins our social, literary and cultural heritage' (Barratt-Pugh et al., 2006:31). Fundamental to *Strong Foundations*' initiatives is the provision of 'content specific and practical capacity building mentoring and resource support' in early literacy and numeracy (Elliott & Keenan, 2008:1). The CDU early childhood leader and the school curriculum coordinator have the mentoring roles but issues emanating from practice are reviewed and addressed by the team as part of the action research cycle, and then implemented through the mentor-protégé partnership.

Arrurle Anthurre's outcomes were articulated as pre-schoolers increasing their fluency and understanding of the language of numeracy and their appreciation of Dreamtime folk tales. The indicators of success for this program were designed by the team to include

- (i) spontaneous use of the language of numeracy
- (ii) enjoying literacy opportunities
- (iii) storying (the activity of creating narrative, Whitehead, 2004:111)
- (iv) pre-schoolers entering the transition class in 2010 with numeracy and literacy readiness (Action Learning Plan, 2009).

¹ The first language of the Arrernte People.

An action time line was built into the program with reviews being held every six weeks to reflect on and review progress to date, and plan for the following six weeks. This regular review process was installed to regulate change as a collaborative decision, rather than a reactive response.

Risk management

At the initial *Arrurle Anthurre* planning conference the risks or likely problems the pilot program might encounter were identified. At that stage the only risk that was identified was the problem of non-Indigenous participants lacking appreciation of cultural issues relevant to the school community and its community issues. This is a difficulty with the delivery of education to Indigenous cultures anywhere in the world (Slee & Keenan 2009; Nakata, 2007; Ladson-Billings, 1992).

However, during the first six weekly review another risk to the success of the program emerged. The funding bodies' objectives and *Strong Foundations'* stated expectations and outcomes were proving too broad to incorporate into practice. *Arrurle Anthurre's* indicators of success were also too broad, too difficult to measure and reflected in one case, a state of mind rather than an observable behaviour. None of the three layers of objectives and outcomes was situation-specific enough for the setting in which *Arrurle Anthurre* program was being implemented. The team decided each DEEWR objective would be much more attainable if explicit outcomes were customised to suit the pre-school's setting, staff and students. This would also provide a useful platform for the internal and external monitoring as well as guiding generalisation to other similar settings. It was decided that more effective linkage could be established with the funding body's intention by returning to DEEWR's original objectives, and basing changes on these, rather than on *Strong Foundation's* adaptation of them which informed at a third level, *Arrurle Anthurre's* indicators of success.

A work-in-progress, the primary purpose of this paper is to record and disseminate the development of explicit outcomes to operationalise DEEWR's objectives. This in turn, will facilitate the evaluation process. Through this paper the action research team's experiences will be shared with other pilot schools and the wider school community as required by DEEWR's reporting expectations.

DEEWR's objectives for pilot proposals

As it was stated earlier in this paper, DEEWR expected pilot proposals to meet quite explicit criteria outlined in the *Information Paper – Literacy and Numeracy Pilots* (DEEWR, 2008). These included six objectives and five evidence-based approaches "in order to test and expand the existing evidence-base about what works in literacy and numeracy" (DEEWR, 2008:1). The overarching aim was to accelerate the drive to improve literacy and numeracy outcomes especially in low socio-economic and Indigenous communities by introducing innovative programs that used evidence-based

research and could be disseminated widely. The strategies to achieve this aim included student-centred approaches and interventions; investments in lifting teacher capacity; leadership and whole school approaches; use of broader community and parental engagement strategies; and, effective use of student outcome data (DEEWR, 2008:1). The dimensions of these strategies were not limited by discrete boundaries. Therefore, it was obvious that in order for a program to work successfully, each objective and strategy needed to be an integral part of the whole, and this made the customisation of explicit outcomes more difficult for the *Arrurle Anthurre* project.

Customising explicit outcomes

Effective teachers know where they want to take their students by developing explicit outcomes that the students are aware of and understand. Rosenberg, O'Shea & O'Shea suggest "Differences in how they guide students to reach these goals may not be as important as the need to specify where students are going (2006:133). The way to guide a student or their educator to a goal is to scaffold each component of that goal. This is best done by writing explicit outcomes that identify the target for change (a teacher, student or program); the conditions under which this change will occur; and, the criteria by which it can be said with confidence that the change has been affected. In any development of outcomes, it needs to be recognised that program objectives are generated by analysing the components of a superordinate task or skill such as DEEWR has done in its call for pilot proposals to improve literacy and numeracy outcomes. In order to satisfy the funding body's requirements of the development of best practices these pilot objectives needed breaking down into sequenced, attainable steps through task analysis. This paper analyses each component of DEEWR's objectives articulating the explicit outcomes to guide *Arrurle Anthurre's* action research program.

The pilot proposals' objectives

The *Information Paper – Literacy and Numeracy Pilots* (DEEWR, 2008) contained six objectives, each of which will now be identified, analysed and operationalised into explicit outcomes. This process will be informed by the guiding principles, strategies and reporting requirements included with the objectives in the *Information Paper*.

Objective 1: To accelerate achievement of the COAG agreed outcomes and targets for literacy and numeracy (DEEWR, 2008:2).

The COAG "agreed outcomes and targets for literacy and numeracy" were identified in the National Partnership Agreement on Literacy and Numeracy (COAG, 2009) and signed off by all states and territories (December 2008) and by the Commonwealth (January, 2009). These were:

Outcome 1: Young people are meeting basic literacy and numeracy standards, and overall levels of literacy and numeracy achievement are improving.

Performance indicator 2: Literacy and numeracy achievement of Year 3, 5, 7 and 9 students in national testing.

Outcome 2: Australian students excel by international standards.

Performance Indicator 2: The proportion of students in the bottom and top levels of performance in international testing (for example, Program for International Student Assessment and trends in International Mathematics and Science Study (COAG, 2009:6).

Outwardly, these outcomes and their performance indicators seem modest, but as the 2008 results for national testing of literacy and numeracy attest, there is an urgent need for ‘nationally significant reforms which aim to improve the literacy and numeracy outcomes of all students, particularly those most in need’ (COAG, 2009:6). And, undoubtedly those most in need are Indigenous learners in the very remote areas of the NT. The 2008 *National Assessment Program – Literacy and Numeracy* reported that Indigenous students in schools in very remote communities of the NT performed significantly worse across Years 3, 5, 7, & 9 in all subject areas (reading, writing, language conventions and numeracy) than any other group of students in Australia. For example, in reading, 85.6 per cent of Year 3 Indigenous students in very remote communities of the Northern Territory tested at below the national minimum standard (MCEETYA, 2009). This is particularly distressing, as despite various generously funded government initiatives, this result is markedly lower than the result from 2000 where it was found that 70 per cent of a comparable year three cohort failed to meet the benchmark (COAG, 2000:3). There were no data published in 2008 for the same cohort in numeracy (presumably because there were no students tested or the number tested was less than 30). However, results from Year 5, show that 69.4 per cent of Indigenous students in very remote schools failed to reach national benchmarks. It should be added that results for Year 3 Indigenous students across all NT schools that were tested for numeracy are poor, when compared with the non-Indigenous results. Territory-wide, 19.4 per cent of Indigenous students failed to reach the national benchmark compared with 2.4 of the Non-Indigenous students (MCEETYA, 2009).

These results are clearly most unsatisfactory and indicate that if the gap between expectation and reality is to be addressed, then major reforms must take place in the design and delivery of literacy and numeracy programs for all Indigenous students in the NT, and especially for those in very remote schools. To this end, the expectations for the students in the project were customised to meet their specific and diverse needs and delivered as explicit outcomes.

Explicit Outcomes

There are two criteria to measure in the first DEEWR objective:

- (i) accelerated achievement
- (ii) (of) the COAG agreed outcomes and targets for literacy and numeracy.

The steps involved in developing explicit outcomes for objective one required the action research team to articulate literacy and numeracy outcomes required for pre-schoolers 'en route' (as Rosenberg et al., 2006:135, describe the path between task analysis and terminal outcomes) to national testing at Year 3. The team discussed whether it was premature to consider national testing, or whether its program should acknowledge the relevance of this first national assessment and prepare pre-schoolers for it. This discussion resulted in interesting outcomes. It was concluded that a responsible program must begin at the beginning and therefore explicit outcomes which would lead eventually to the long-term indicator of meeting national benchmarks were developed. It was also posited that any change to the delivery of the curriculum would need to be geared to accelerate achievement.

Explicit Outcome 1: Target for change – Establishing a record of pre-schoolers' knowledge of numeracy and literacy concepts

Conditions under which this change will occur – Individual baseline data will be collected by the school's curriculum coordinator, quantifying pre-schoolers' knowledge of numeracy language and concepts.

Criterion which indicates change has been affected – an individual record of each child's knowledge of numeracy language and concepts.

Explicit Outcome 2: Target for change – Making an inventory of resources required from *Arrurle Anthurre's* funding to support literacy and numeracy teaching and learning outcomes.

Conditions under which this change will occur – Curriculum coordinator will make an inventory of what would benefit the program and present to the school principal for ordering from the *Arrurle Anthurre* fund.

Criterion which indicates change has been affected - Requested resources are used in the classroom to support teaching and learning.

Explicit Outcome 3: Skill deficits indicated by baseline data to be identified and addressed when introducing *Arrurle Anthurre*.

Target for change – instructional delivery (This will be subject to intense task analysis.)

Conditions under which this change will occur – Program co-ordinator working with the school based team will mentor pre-school teacher and teacher's aide in developing appropriate instructional strategies.

Criteria which indicate change has been affected – Pre-school teacher and aide use the instructional strategies spontaneously.

Explicit Outcome 4: Target – literacy and numeracy gains through improved instructional strategies.

Conditions under which this change will occur – Following each *Arrurle Anthurre* lesson, a curriculum-based assessment (CBA) will measure literacy and numeracy language based on the *Arrurle Anthurre* input. This will be carried out as a teaching strategy by the pre-school teacher.

Criteria which indicates change has been affected - (i) a completed CBA record; (ii) gains in students' literacy and numeracy language.

Explicit Outcome 5: Target – Environment scan of classroom resources

Conditions under which this change will occur - Pre-school staff identify the items in their classroom which would support literacy and numeracy learning with criteria identified by Fler and Raban (2007: 10-13).

Criteria which indicate change has been affected – a complete environmental scan has been produced which maps literacy and numeracy resources in the classroom.

Explicit Outcome 6: Target - Teacher-student interactions increasing in frequency and degree of personalisation

Conditions under which this change will occur - Pre-school teacher and aide will interact with each child at the beginning of a lesson, asking if they understand what they are meant to be doing, and/or commenting on how well they have begun the desk work. They will continuously move among the children commenting, questioning, redirecting and reinforcing throughout the lesson. At the end of the lesson they will ask the children to sit on the mat and have each one come up and tell the others about their activity. The curriculum coordinator will collect data each week on these outcomes.

Criteria which indicates change has been affected – data recording the frequency, duration and intensity of teacher-student interactions.

DEEWR's Objective 2:

To trial evidence-based approaches to literacy and numeracy that will achieve sustained improvements in the literacy and numeracy performance of participating low SES school communities, particularly Indigenous communities (DEEWR, 2008:2).

This objective seeks two outcomes that are not always present in literacy and numeracy programs – a research base and sustainability. The guiding principles expand on the objective by stating that 'articulation of the evidence-base can include national and international evaluations of strategies that have demonstrated improvements in student outcomes' (DEEWR, 2008:3).

The team was aware that 83 per cent of the school day involves paper and pencil activities (including numeracy) which involve reading (Doyle, 1993).

Therefore, it saw its role as maximising reading competence by identifying students' literacy and numeracy strengths and weaknesses, designing and implementing programs to address these, and, constantly reviewing outcomes to accommodate on-going needs based on research literature that informs best practice.

The second component of objective two is the need for sustained changes. These can only be achieved through whole school policy and strong leadership. Initiatives that work in the pre-school for example, need to be disseminated through the school and built on year after year. Sustainability depends primarily on the strength of the program, rather than on that of the individuals delivering it. In other words, when a teacher moves from a school the efficacy of the program should remain with the school. This is a critical issue in the NT where staff turnover is extremely high and must be considered a significant contributor to poor literacy and numeracy standards. For example, teachers remain in remote schools on average, for seven months only. A specific example of this high staff turnover is that experienced by an area school in a very attractive and remote area, Jabiru, the gateway to Kakadu National Park. Of all remote areas this would be among the most desirable in which to live, work and bring up a family. Yet, this school had 47 per cent of its non-executive teaching staff leave at the end of 2006. This meant that only nine out of its nineteen teachers were familiar to the students on the first day of 2007 (DET, 2007).

The guiding principles expand on DEEWR's second objective of targeting low socio-economic schools and in particular Indigenous communities. As it has already been stated, Indigenous learners living in very remote communities perform consistently much lower on standardised testing than other Indigenous learners in the NT and are, by any standards, the most disadvantaged learners in the country.

Explicit outcomes for objective 2

Objective two specifies that applicants

- (i) trial evidence-based approaches to literacy and numeracy (that will)
- (ii) achieve sustained improvements in literacy and numeracy.

Arrurle Anthurre's initial research plan was based on evidence-based literature (Ebbeck, 2009; Castagno et al, 2008; Barratt-Pugh et al, 2006; Purdie & Stone, 2005; Whitehead, 2004) but at the first review there was no evidence that this research was driving the program on a day-to-day basis. The team decided that a much more pragmatic approach to using evidence-based research needed to be built into the program. It selected Flier & Raban's (2007) *Early childhood literacy and numeracy: Building good practice*, as its sole evidence-based authority.² A DEEWR publication freely

² It also noted the intention to move to other similar texts, including Peterson and Wittmer's (2009) *Endless opportunities for infant and toddler curriculum: A relationship-based approach*. Upper Saddle River, NJ: Merrill; Department of

distributed throughout Australia, this text has a suite of evidence-based, high quality early childhood learning resources to guide early literacy and numeracy programs. The project co-ordinator conducted two workshops outlining the way in which this book could be used in classrooms. From this workshop five explicit outcomes were developed by the team to operationalise objective two (i).

Fleer and Raban stated in their introduction:

(R)ecent research indicates that early understandings of literacy and numeracy are best supported when early childhood professionals

- have a deeper knowledge of literacy and numeracy
- deliberately plan for activities which support beginning development in literacy and numeracy
- have programmes which go beyond number and the spoken word
- have systems for looking at their own professional practices
- seek to improve their understandings of literacy and numeracy (2007:3).

Each of these research findings can be demonstrated directly or in the case of the first point, indirectly, through performance that informs and characterises changes to the *Arrurle Anthurre* program.

Explicit outcome 1: Target – Early childhood professionals will articulate what is meant by new thinking about children’s learning by referring to the Fleer and Raban (2007) text and

- (i) describing what is meant by numeracy concepts
- (ii) identifying important numeracy concepts
- (iii) describing what is meant by literacy concepts
- (iv) identifying important literacy concepts.

Conditions under which these changes will occur – The project team will work collaboratively to achieve the target and reflect on each other’s competencies.

Education, Science and Training (2005). *What works. The works program: Improving outcomes for Indigenous students* (2nd ed.). Canberra, ACT: Commonwealth of Australia; and, Lunt & Williamson’s (1999). *Children’s experiences folio: Developmentally appropriate experiences for 0-6 years*. Melbourne, VIC: RMIT Publishing.; Broad, N. (2008). *Eastern and Central Arrernte picture dictionary*. Alice Springs, NT: IAD.

Criteria which indicate change has been affected – the teacher will develop a record of each child's knowledge of numeracy language and concepts. The pre-school teacher and aide will demonstrate through practice their ease with the theory underpinning the targets. Instructional materials will reflect these findings. Early educators' degree of mastery in using the target concepts will demonstrate change.

Explicit outcome 2: Target – Project team will use the mapping tools (Fleer & Raban, 2007:14-16) to plan activities which support beginning development in literacy and numeracy.

Condition under which this change will occur –

- a. team members self-assessing knowledge and understanding of literacy and numeracy through an environmental scan.
- b. team members self-assessing knowledge and understanding of literacy and numeracy through mapping interactions

Criteria which indicates change has been affected – Incremental records of project team members' literacy and numeracy knowledge and understanding gained through the environmental scan and mapping interactions.

Explicit Outcome 3: Target - Programs that go beyond number and the spoken word.

Conditions under which this change will occur - The project coordinator presents workshop activities from Fleer & Raban (2007:17-24) to prepare early educators' capacity to transform children's thinking through transforming everyday concepts into abstract concepts. It is through this capacity to think at the abstract level that the second component of objective two – to achieve sustained achievements in literacy and numeracy, is met.

Criteria which indicates change has been affected - Early educators incorporate literacy and numeracy practices which focus on everyday concepts through to abstract concepts in their daily teaching.

Explicit outcome 4: Target - teachers will increase their one x one time with students to enhance literacy and numeracy knowledge.

Conditions under which this change will occur - By using cards supplied with Fleer and Raban's (2007) text, the early educator will encourage the child to demonstrate an understanding of everyday literacy and numeracy concepts in each of the thirty-two cards by asking them to describe each situation the card represents.

Criteria which indicates change has been affected - Children have developed broader literacy and numeracy concepts through more intensive teaching.

Objective 3:

To support innovation in literacy and numeracy at participating low socio-economic school communities (DEEWR, 2008:2)

Arrurle Anthurre is an innovation approach, based largely on the theory espoused in *The uses of enchantment: The meaning and importance of fairy tales*, the seminal work of Bruno Bettelheim (1975).

The acquisition of skills, including the ability to read, becomes devalued when what one has learned to read adds nothing of importance to one's life (1975:4).

Bettelheim's philosophy is congruent with that of some traditional Indigenous beliefs regarding the value of mythopoeia in adding meaning to a child's life (Berndt & Berndt, 1989; Nakata, 2007). Another reason for focusing on folk tales to encourage emerging literacy and numeracy interest is that 'our cultural heritage finds expression in fairy tales and through them is communicated to the child's mind' (Bettelheim, 1975: 12). The folk tales in this program are a combination of traditional tales from the Arrernte People and those adapted from the European tradition. The latter have animal characters endemic to the pre-school's location. For example, the Three Little Pigs is told as "The Night the Three Ants Ate the Echidna" (Slee, 2009). The project co-ordinator is adapting these folk tales and older students from the school are illustrating them.

Explicit outcome 1: Target – communicating traditional folk tales

Condition under which this change will occur – Arrernte Women tell traditional folk tales in their language to pre-school children by a group of senior community women weekly.

Criteria which indicate change has been affected - Time is allotted to this activity and the Arrernte Women carry out the activity each week. Children develop a familiarity with each storyline by anticipating events, retelling and creating other media.

Explicit outcome 2: Target – communicating folk tales based on traditional European sources

Condition under which this change will occur – these are to be told/read to the students three times a week from books written by the project coordinator at a rate of two a term and illustrated by older school students.

Criteria which indicate change has been affected - time is allotted to this activity and the teachers carry out the activity three times a week with children seated on the mat. Children develop a familiarity with each storyline by anticipating events, retelling and creating other media.

Objective 4:

To foster the dissemination of best-practices in school communities' approaches to literacy and numeracy through independent monitoring and evaluation of student outcomes (DEEWR, 2008:2)

The principles guiding this objective stress that the pilots must not only demonstrate innovative schooling practices but should also disseminate these practices across the broader learning community. They state that where 'interventions are found to be successful' opportunities will be provided to 'implement the reforms more broadly and to address disadvantage wherever it occurs' (DEEWR, 2008:2). The principles do not articulate what is a measure of success or whose measure it is. It should be presumed from the content however, that independent evaluation is one type of measure, and that on-going student literacy and numeracy outcomes are significant measures of teaching and learning.

Explicit outcomes 1: Target – Disseminate best practices through internal evaluation and monitoring

Condition under which this change will occur – Formative and summative assessment of literacy and numeracy will be made by the pre-school teacher and will be recorded by the curriculum coordinator. This information will be reviewed by the project team each six weeks. It will be disseminated by the Catholic Education project coordinators at regular project meetings to all involved in the *Strong Foundations*' project.

Criteria which indicate change has been affected – The data are recorded and other school communities adapt the approaches which affected change. The independent evaluator receives complete assessment data when requested.

Objective 5:

To test reforms in the way low socio-economic school communities approach literacy and numeracy, which, if shown to be successful, could be applied more broadly, supporting transformational change.

More than any other objective, this highlights the seriousness with which the funding body views the problem. By seeking 'transformational change' is DEEWR suggesting that there is a need for an entire change to the current system of teaching literacy and numeracy to this population? This objective extends the previous objective in as much as it suggests that approaches must not only be disseminated, but must also be *applied*.

Explicit outcome 1: Target – test reforms

Conditions under which this change will occur – the approach through Fleer & Raban (2007) should be applied in a setting with a similar population to that of the target pre-school, to test its efficacy.

Criterion which indicates change has been affected – Other pre-schools receive workshop training and use the Fleer & Raban (2007) approach within their literacy and numeracy programs.

Objective 6:

To strengthen the literacy and numeracy evidence base that will inform the on-going development and operation of the National Action Plan for Literacy and Numeracy.

Explicit outcome 1: Target – Strengthen literacy and numeracy base

Conditions under which this change will occur - This is being done through regular meetings of *Strong Foundations* participants to discuss and guide action research at all levels of the project. It is also being done through the presentation of conference papers, journal articles, seminars and workshops.

Criteria which indicate that change has been affected – Collation of a bank of evidence-based programs that are able to be generalised across settings and will improve the quality of teaching and learning of literacy and numeracy in remote and very remote Indigenous schools.

Concluding comments

In June 2008, DEEWR allocated up to \$30 million towards projects to improve literacy and numeracy outcomes for students attending schools in low socio-economic and Indigenous school communities. The guiding principles suggested that pilots could build on existing programs or introduce new strategies. The *Arrurle Anthurle* team chose a completely new approach as it considered language in the *Information Paper* (DWEER, 2008) such as 'innovative', 'reforms' and 'transformational change' indicated that a strong and fresh response was required. The team also believed that implicit in the call for pilots was the belief that current programs were not succeeding with the targeted population.

Arrurle Anthurle's project team recommends that future calls for proposals to improve any teaching and learning outcomes add two further dimensions to projects' terms of reference. First, as this paper has shown, broad-based objectives are difficult to build pedagogical practice around. It would therefore be useful if objectives were operationalised to convey precisely what the funding body wanted as outcomes from its superordinate task. This would ensure that the funding was spent to its best advantage. Second, again as this paper has demonstrated, incorporating an action research approach to designing, implementing and reviewing programs brings a greater discipline to their overall management, and ultimately, greater accountability to the funding body. This paper concludes by suggesting that the way to make funding work is to promote expectations of reciprocal best practices between funding bodies and potential recipients.

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